



**U.S. Department Of Energy  
Technical Qualification Program**

***Conduct of Assessments  
Topical Area***

**Study Guide**

**for the**

***Environmental, Safety, and Health Resident  
Qualification Standard***

**March 1997**

**Competency 2.22**    **EH Residents shall demonstrate a working level knowledge of the Environment, Safety, and Health (ES&H) Appraisal Program as described in Department of Energy (DOE) Order 5482.1B, Environment, Safety, and Health Appraisal Program.**

**1. Supporting Knowledge and/or Skills**

- a. Discuss the Departmental policy set forth in DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.
- b. Describe the objectives of the Environment, Safety and Health Appraisal Program.
- c. Outline the conduct, activities, and staffing requirements for the following types of appraisals:
  - Management appraisals
  - Technical safety appraisals
  - Functional appraisals
  - Internal appraisals
  - Environmental survey
  - Environmental audit
- d. Discuss each of the generic factors to be considered and applied in the Environment, Safety and Health Appraisal Program.

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### **2. Self-Study Activities (corresponding to the intent of the above competency)**

- NOTES: · The DOE Orders are in a state of transition. Please refer to the following world wide web site for a cross reference of new and old Orders: [www.explorer.doe.gov](http://www.explorer.doe.gov)
- Below are three web sites containing many of the references you may need.

<b>Web Sites</b>		
<b>Organization</b>	<b>Site Location</b>	<b>Notes</b>
Department of Energy	<a href="http://cted.inel.gov/cted">http://cted.inel.gov/cted</a>	Clearinghouse for Training, Education, and Development
Department of Energy	<a href="http://www.explorer.doe.gov/">http://www.explorer.doe.gov/</a>	DOE Standards, Guides, and Orders
U.S. House of Representatives	<a href="http://law.house.gov/cfr.htm">http://law.house.gov/cfr.htm</a>	Searchable Code of Federal Regulations

Competency 2.22 addresses Environmental, Safety, and Health (EH) personnel's working level of knowledge of the Department of Energy's (DOE) Environment, Safety, and Health Appraisal Program. To support the review and understanding of the competency, Supporting Knowledge and Skills and self-study information has been developed. The self-study information specifically address those areas needed for understanding the competency. The following documents are used in support of the self-study information:

- DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program

Through the understanding of Competency 2.22, EH personnel will become familiar with the Department of Energy Environment, Safety, and Health Appraisal Program.

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**Read** DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.

- EXERCISE 2.22-A State the DOE's policy regarding the environment as addressed in DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.
- EXERCISE 2.22-B List typical activities and functions used to accomplish the policy regarding the Environment, Safety, and Health Appraisal Program.
- EXERCISE 2.22-C State the Departmental policies used to accomplish the objectives of DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.
- EXERCISE 2.22-D List the five (5) objectives of DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.
- EXERCISE 2.22-E List the six (6) appraisals, audits, and surveys used to confirm the adequacy of line management's review and appraisals regarding the Environment, Safety, and Health Appraisal Program.
- EXERCISE 2.22-F Which appraisals, audits, and surveys accomplishes the following actions: "A documented review of an Environment, Safety, and Health specialty discipline performed in accordance with written guidance and criteria. Verifies that applicable elements of the program have been developed, documented, and effectively implemented in accordance with specific requirements and needs."?
- EXERCISE 2.22-G Describe the purpose of a Technical Safety Appraisal.
- EXERCISE 2.22-H List six (6) factors to be considered and applied as appropriate for use in the Environment, Safety, and Health Appraisal Program.
- EXERCISE 2.22-I Which factor addresses "the adequacy in technical skill and number of staff assigned to carry out the Environment, Safety, and Health program"?

### **3. Summary**

#### Environment, Safety, and Health Appraisal Program Policy

The Environment, Safety, and Health Program encompasses those DOE requirements, activities, and functions in the conduct of DOE and DOE controlled operations that are concerned with: controlling air, water, and soil pollution; limiting the risks to the well being of operating personnel and the general public; and protecting property adequately against accidental loss and damage. Typical activities and functions related to this program include: environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, process and facility safety, nuclear safety, emergency preparedness, quality assurance, and radioactive and hazardous waste management. It is the purpose of the DOE to establish the above through the following Departmental policies:

- Assure the protection of the environment and health and safety of the public.
- Provide safe and healthy workplaces and conditions for employees of DOE and DOE contractors.
- Protect Government property against accidental loss or damage.
- Assure compliance with applicable statutory requirements affecting Federal facilities and operations and where possible, consistent with Department's mission and supported by appropriate cost/benefit analysis, reduce identified environment, safety, and health risks, even though not mandated by specific requirements.
- Assure that Quality Assurance is pursued (i.e., that research, development, demonstration, and production activities are performed in a controlled manner; that components, systems, and processes are designed, developed, constructed, tested, operated, and maintained according to industry accepted engineering standards, quality practices, and Technical Specifications/Operational Safety Requirements; and that resulting technology data are valid and retrievable).
- Require line management to be responsible for effective Environment, Safety, and Health (ES&H) performance in their programs.

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### **Environment, Safety, and Health Appraisal Program Objectives**

The main objectives of the Environment, Safety, and Health Appraisal Program are described below:

- a. Determine that Environment, Safety, and Health policies and requirements are appropriately interpreted and implemented by DOE and DOE contractor programs and organizations.
- b. Evaluate the effectiveness of Environment, Safety, and Health policies, requirements, and standards and their implementation.
- c. Provide management with objective, timely, and reliable information on Environment, Safety, and Health performance, including significant achievements and deficiencies.
- d. Provide management with recommendations, where appropriate, for improvements of Environment, Safety, and Health program performance.
- e. Determine the adequacy of DOE requirements for achieving DOE policy and Federal statutory Environmental, Safety, and Health requirements.

### **Appraisals, Audits, and Surveys**

The three processes used to evaluate the performance of the Environment, Health, and Safety, program are appraisals, audits, and surveys. These processes provide management with an overview of the typical activities related to the following: environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, process and facility safety, nuclear safety, emergency preparedness, quality assurance, and radioactive and hazardous waste management. The processes used to evaluate the program are described below:

- a. Management Appraisals - A documented determination of managerial effectiveness in establishing and implementing Environment, Safety, and Health program plans which conform to DOE policy requirements. It is based on analysis of functional appraisals, internal appraisals, and on the application of appropriate criteria. The appraisal is a review and evaluation of management performance covering all Environment, Safety, and Health disciplines and management responsibilities to assure proper program balance.

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- b. **Technical Safety Appraisals** - A documented, multi-disciplined appraisal of selected Department reactors and nuclear facilities. The appraisal assures proper Department wide application of particular safety elements of the Environment, Safety, and Health program, nuclear lessons learned, and appropriate licensed facility requirements.
- c. **Functional Appraisals** - A documented review of an Environment, Safety, and Health specialty discipline performed in accordance with written guidance and criteria. A functional appraisal verifies that applicable elements of the program have been developed, documented, and effectively implemented in accordance with specific requirements and needs.
- d. **Internal Appraisals** - An examination and evaluation by the operating level of those portions of its internal Environmental, Safety, and Health program, program plan implementation, and operations retained under its direct control.
- e. **Environmental Audit** - A documented assessment of a facility to monitor the progress of necessary corrective actions, to assure compliance with environmental laws and regulations and to evaluate field organizations practice and procedures.
- f. **Environmental Survey** - A documented, multi-discipline assessment of a facility to determine environmental conditions and to identify environmental problem areas of environmental risk requiring corrective action.

### **Factors for Environment, Safety, and Health Appraisals**

The following factors are to be considered and applied as appropriate for use in the Environment, Safety, and Health appraisal program:

- **Management Directives** - The extent to which contract safety clauses, Environment, Safety, and Health program plans, codes, regulations, and directives are complied with and the degree of interest, initiative, and participation of management in their enforcement.
- **Policies, Standards, Permits, and Licenses** - The extent to which DOE and contractor Environmental, Safety, and Health policies and standards are written, published, transmitted, updated, and carried out.

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- Organization and Administration - The structure and effectiveness of the organization for achievement of its mission, including ensuring comprehensive, continuous preventive and protective Environment, Safety, and Health programs in all activities.
- Staffing - Adequacy in technical skill and number of staff assigned to carry out the Environment, Safety, and Health program.
- Training - The extent and adequacy of training, promotion, and education in the areas of Environment, Safety, and Health for both the staff and operating personnel.
- Communication - The extent to which experience and accumulated knowledge in DOE preventive techniques are disseminated.
- Documentation - The extent and adequacy of documentation covering Environment, Safety, and Health activities, including internal instruction, procedures, management guidance and policy, appraisal and corrective action files, and all other documentation enhancing audibility of the program.
- Incident and Accident Reporting - The determination of the adequacy of trend and risk analysis, including follow-up on accidents, incidents, and occurrences.
- Planning, Budgeting, and Spending - The adequacy of expenditures of available funding provided to meet Environment, Safety, and Health needs and long range planning.
- Environmental, Safety, and Health Appraisal Programs - Frequency, adequacy and records of formal appraisals, including timely notification of findings with an effective follow-up system.
- Environmental, Safety, and Health Evaluation of Current and Planned Facilities and Programs - Extent and adequacy of measures established to ensure that applicable requirements are correctly translated into specifications, drawings, procedures, and instructions. Determination of effectiveness of identification and evaluation of risks and the reduction of known risks to acceptable low levels.



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- Performance - Comparison of overall experience in Environment, Safety, and Health areas and results of the individual programs with related general experience of similar DOE operations. Significant aspects of the ES&H program performance will be reviewed, taking into consideration the management support of the program and the extent to which sound technical and professional judgment is exercised in implementing the programs.

#### **4. Exercise Solutions**

**EXERCISE 2.22-A** State the DOE's policy regarding the environment as addressed in DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.

- Controlling air, water, and soil pollution
- Limiting the risks to the well being of operating personnel and the general public
- Protecting property adequately against accidental loss and damage.

**EXERCISE 2.22-B** List typical activities and functions used to accomplish the policy regarding the Environment, Safety, and Health Appraisal Program.

- Environmental protection
- Fire protection
- Health physics
- Process and facility safety
- Emergency preparedness
- Radioactive and hazardous waste management
- Occupational safety
- Industrial hygiene
- Occupational medicine
- Nuclear safety
- Quality assurance

**EXERCISE 2.22-C** State the Departmental policies used to accomplish the objectives of DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.

- 1) Assure the protection of the environment and health and safety of the public.
- 2) Provide safe and healthy workplaces and conditions for employees of DOE and DOE contractors.
- 3) Protect Government property against accidental loss or damage.
- 4) Assure compliance with applicable statutory requirements affecting Federal facilities and operations and where possible, consistent with Department's mission and supported by appropriate cost/benefit analysis, reduce identified environment, safety, and health risks, even though not mandated by specific requirements.

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- 5) Assure that Quality Assurance is pursued (i.e., that research, development, demonstration, and production activities are performed in a controlled manner; that components, systems, and processes are designed, developed, constructed, tested, operated, and maintained according to industry accepted engineering standards, quality practices, and Technical Specifications/Operational Safety Requirements; and that resulting technology data are valid and retrievable).
- 6) Require line management to be responsible for effective Environment, Safety, and Health (ES&H) performance in their programs.

**EXERCISE 2.22-D** List the five (5) objectives of DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program.

- 1) Determine that Environment, Safety, and Health policies and requirements are appropriately interpreted and implemented by DOE and DOE contractor programs and organizations.
- 2) Evaluate the effectiveness of Environment, Safety, and Health policies, requirements, and standards and their implementation.
- 3) Provide management with objective, timely, and reliable information on Environment, Safety, and Health performance, including significant achievements and deficiencies.
- 4) Provide management with recommendations, where appropriate, for improvements of Environment, Safety, and Health program performance.
- 5) Determine the adequacy of DOE requirements for achieving DOE policy and Federal statutory Environmental, Safety, and Health requirements.

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**EXERCISE 2.22-E** List the six (6) appraisals, audits, and surveys used to confirm the adequacy of line management's review and appraisals regarding the Environment, Safety, and Health Appraisal Program.

- 1) Management Appraisals
- 2) Technical Safety Appraisals
- 3) Functional Appraisals
- 4) Internal Appraisals
- 5) Environmental Survey
- 6) Environmental Audit

**EXERCISE 2.22-F** Which appraisals, audits, and surveys accomplishes the following actions: "A documented review of an Environment, Safety, and Health specialty discipline performed in accordance with written guidance and criteria. Verifies that applicable elements of the program have been developed, documented, and effectively implemented in accordance with specific requirements and needs."?

Functional Appraisals

**EXERCISE 2.22-G** Describe the purpose of a Technical Safety Appraisal.

A documented, multi-disciplined appraisal of selected Department reactors and nuclear facilities. The appraisal assures proper Department wide application of particular safety elements of the Environment, Safety, and Health program, nuclear lessons learned, and appropriate licensed facility requirements.

**EXERCISE 2.22-H** List six (6) factors to be considered and applied as appropriate for use in the Environment, Safety, and Health Appraisal Program.

- Management Directives
- Policies, Standards, Permits, and Licenses
- Organization and Administration
- Staffing
- Training
- Communication

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- Documentation
- Incident and Accident Reporting
- Planning, Budgeting, and Spending
- Performance
- Environmental, Safety, and Health Appraisal Programs
- Environmental, Safety, and Health Evaluation of Current and Planned Facilities and Programs

EXERCISE 2.22-I      Which factor addresses "the adequacy in technical skill and number of staff assigned to carry out the Environment, Safety, and Health program"?

Staffing

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**Competency 4.1** EH Residents shall demonstrate an expert level knowledge of assessment techniques such as the planning and use of observations, interviews, and document reviews to assess facility performance, report results of assessments, and follow up on actions taken as the result of assessments.

### **1. Supporting Knowledge and/or Skills**

- a. Describe the role of EH Residents role in performing oversight of Government-Owned Contractor-Operated (GOCO) facilities.
- b. Describe the assessment requirements and limitations associated with an EH Resident's interface with contractor employees.
- c. Conduct an interview representative of one which would be conducted during an occurrence investigation.
- d. Discuss the difference between a surveillance and a review.
- e. Explain the essential elements and processes associated with the following assessment activities:
  - Exit interviews
  - Closure process
  - Tracking to closure
  - Follow up
  - Contractor corrective action implementation
- f. Describe the actions to be taken if the contractor challenges the assessment findings and explain how such challenges can be avoided.
- g. Participate in formal meetings between Department of Energy management and senior contractor management to discuss results of EH Resident surveillance or reviews.
- h. Explain the essential elements of performance-based and compliance-based surveillance/reviews including the areas of investigating, fact-finding, and reporting.
- i. Discuss the techniques for developing the content of lines of inquiry.

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- j. Given a set of requirements or requirement document, prepare a line of inquiry.
- k. Discuss the techniques for maintaining control of an interview.
- l. Discuss "objective evidence" including identification of various types and their relative accuracy.
- m. Describe the importance of note taking and gathering other documentation as the surveillance/review proceeds.
- n. Describe the surveillance/review alternatives when actual work cannot be observed.
- o. Discuss the means for determining the adequacy and effectiveness of the area (topic) being evaluated including the type of finding and significance of deficiencies.
- p. Describe what constitutes an issue.
- q. Describe the criteria for determining the significance of issues.
- r. Discuss the types of issues that warrant prompt notification to management personnel of both contractor and the Department.
- s. Discuss use of recommendations and observations that do not involve/constitute issues.
- t. Discuss the difference between the inductive surveillance/review process and the deductive reporting process.
- u. Discuss the ethical liability and responsibilities of the assessor.
- v. Given an issue and response, determine the acceptability of the response and the further actions needed.
- w. Discuss the difference between the performing oversight and providing technical assistance.

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### **2. Self-Study Activities (corresponding to the intent of the above competency)**

- NOTES: · The DOE Orders are in a state of transition. Please refer to the following world wide web site for a cross reference of new and old Orders: [www.explorer.doe.gov](http://www.explorer.doe.gov)
- Below are web sites containing many of the references you may need.

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U.S. House of Representatives	<a href="http://law.house.gov/cfr.htm">http://law.house.gov/cfr.htm</a>	Searchable Code of Federal Regulations

Competency 4.1 addresses assessment techniques for EH personnel to assess facility performance, report results, and follow up on actions taken as a result of the assessment. To support the review and understanding of the competency, Supporting Knowledge and Skills and Self-Study Information has been developed. The Self-Study Information specifically addresses those areas needed for understanding the competency. The supporting material for the Self-Study Information include the following documents:

- 10 CFR Part 830.120, Quality Assurance Requirements
- DOE Order 5700.6C, Quality Assurance
- DOE O 425.1, Startup and Restart of Nuclear Facilities
- DOE-STD-3006-95, Planning and Conduct of Operational Readiness Reviews
- DOE-HDBK-3012-96, Guide to Good Practices for Operational Readiness Reviews (ORR) Team Leaders Guide
- DOE-EM-STD-5055-96, Operations Assessments
- Performance Based Assessments, by Paul F. Wilson and Richard D. Pearson
- Project Management, A Systems Approach to Planning, Scheduling, and Controlling, Third Edition, by Harold Kerzner, Ph.D.



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**Read** chapters 1-6 of Performance Based Assessments.

- EXERCISE 4.1-A     State the three (3) types of assessments.
- EXERCISE 4.1-B     Which type of assessment provides the highest amount of objectivity? Why?
- EXERCISE 4.1-C     In addition to monitoring work performance and identifying abnormal performance and potential problems, what three other responsibilities does a person performing independent assessments have?
- EXERCISE 4.1-D     Describe the "Performance based" assessment approach.

**Read** DOE O 425.1, Startup and Restart of Nuclear Facilities

**Read** sections 1 through 4 of DOE-STD-3006-95, Planning and Conduct of Operational Readiness Reviews

**Read** DOE-HDBK-3012-96, Guide to Good Practices for Operational Readiness Reviews (ORR) Team Leaders Guide

**Read** sections 1 through 5 of DOE-EM-STD-5055-96, Operations Assessments

**Read** 10 CFR Part 830.120, Quality Assurance Requirements

**Read** DOE Order 5700.6C, Quality Assurance

**Read** chapter 7 of Project Management, A Systems Approach to Planning, Scheduling, and Controlling

- EXERCISE 4.1-E     List and describe four (4) factors that must be considered when "determining the scope" of an assessment.
- EXERCISE 4.1-F     Which types of questions are NOT used during the interview process of an assessment? Why?
- EXERCISE 4.1-G     Which evaluation technique is used to test the differences that are beyond expected repeatability?
- EXERCISE 4.1-H     List the six (6) sections of a typical assessment report.
- EXERCISE 4.1-I     What are the three stages of conflict management?
- EXERCISE 4.1-J     Define the term "objective evidence".

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- EXERCISE 4.1-K      What is the importance of note taking?
- EXERCISE 4.1-L      What information should be included in evaluator notes?
- EXERCISE 4.1-M      Discuss the terms of type of deficiency and their significance in reference to the adequacy and effectiveness of the area (topic).
- EXERCISE 4.1-N      Describe what constitutes a deficiency (issue).
- EXERCISE 4.1-O      Describe the criteria for determining the significance of deficiencies (issues).
- EXERCISE 4.1-P      Discuss the types of deficiencies (issues) that warrant prompt notification to management personnel of both the contractor and the Department.
- EXERCISE 4.1-Q      Discuss the use of recommendations and observations that do not involve/constitute deficiencies (issues).
- EXERCISE 4.1-R      Discuss the ethical liability and responsibility of the assessor.

### **3. Summary**

#### Assessments

There are three recognized types of assessment: a. Internal, b. Self, and c. External (also known as Independent).

- a. Internal assessments are those performed by persons within the group or organization. Internal assessments do not offer the same objectivity as independent assessments.
- b. Self Assessment is the evaluation of an individual, group, or organization by that entity itself. Self Assessments are done on a routine, periodic basis.
- c. External (Independent) assessments are those conducted by someone other than the individual, group, or organization. An example of an independent assessment would be an assessment conducted by a regulatory agency. The advantage of an independent assessment is that the assessor is not associated with the actual process or activity.

#### Responsibilities

The responsibilities of personnel performing independent assessments are to monitor work performance, identify abnormal performance and potential problems, identify opportunities for improvement, report results to a level of management having the authority to effect corrective action, and verify satisfactory resolution to problems.

#### Approaches

There are three approaches to the types of assessments listed above: a. Compliance, b. Compliance plus Effectiveness, and c. Performance Based.

- a. Compliance approach is the evaluation of items, processes, or activities against predetermined requirements.
- b. Compliance plus Effectiveness is an analysis focusing on the product, process, and system to determine if suitable requirements were imposed and implemented, resulting in a product which meets client expectations. This type of approach is better than the previous in that the terms

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"suitable requirements" and "which meets client expectations" are more restrictive and definitive.

- c. Performance Based assessments are merely a logical extension of the compliance plus effectiveness concept. Performance Based assessments provide additional focus toward client expectation, better practices, and process refinement. Performance Based relates to the outcome/result of an activity or process through direct observation and evaluation against defined requirements.

### **Elements of an Assessment**

There are nine essential elements of conducting an assessment.

- a. Determining the Scope involves defining the boundaries for an evaluation. The following are factors to be considered when determining the assessment boundaries:
  - QA Systems- Refer to the criteria of DOE Order 5700.6C, 10 CFR 830.120, or the QA Manual of the facility being assessed.
  - Organizational Entities- Management personnel that have the responsibilities within the evaluation topic.
  - Locations- Physical area where assessment items exist.
  - Programs and Activities- Types of programmatic and work processes.
  - Hierarchy of Procedures- The level of procedures that are used to determine performance during the assessment.
  - Calendar Time- The time allotted for an assessment. Time can affect the population to be assessed. Compliance and performance based assessments use some prior time up to the present.
- b. Preparing the plan includes: scheduling the organization to be assessed, dates of the assessment, team member identification, purpose and scope of the assessment, arrangement for the entrance meeting, necessary escorts, and exit meeting.
- c. Conducting the entrance meeting involves the Team Leader introducing the participants, describing planned assessments, identifying points of contact, arranging for periodic briefings of the organizations being assessed, soliciting and answering questions, and arranging for the exit meeting.

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- d. The interview process is a free exchange of information. It is during this time that a positive, cooperative climate is established. The types of questioning include: open, closed, probing, and leading/loading. Open questions are used to obtain general information, closed questions are used to obtain specific information, probing questions are used to obtain clarifying or additional information. Leading and loaded questions are to be avoided.
- e. Evaluation techniques are essential because they provide the means to determine acceptability. The techniques include: 1) Traceback, 2) Tracethrough, 3) Comparison, and 4) Reinspect/Retest.
  - 1) The Traceback method involves selecting samples from end results, tracing backwards through the activities that produced the results, evaluating each step of the activity, and continuing such an evaluation to the upper tier requirement.
  - 2) The Tracethrough method begins with the evaluation starting with the commitment of the upper tier requirement, tracing through the control model/standard, and evaluating each step until arriving at an end result.
  - 3) The Comparison method compares "from a requirement" to "the object of that requirement". It determines acceptability in terms of compliance with the requirement. Comparison always compares from the requirement to the object of the requirement. Because comparison determines acceptability, it is highly useful.
  - 4) The Reinspect/Retest technique requires the evaluation team to reinspect/retest the product, compare results with those obtained by the initial inspection/test, and explore the differences that are beyond expected repeatability.
- f. Deficiency identification describes the deficiency. A deficiency is a variance from a requirement. Deficiencies may be symptomatic, systematic, or inadvertent. Deficiencies that affect product quality, health, equipment reliability, and commitments to governmental agencies should be promptly reported to the contractor or DOE management.
- g. Conducting the exit interview is important because it verbally summarizes the assessment. The exit meeting should identify participants, discuss

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assessment results, deficiencies, items of concern, questions from the assessed organization, and subsequent schedule of events.

- h. Writing the report is documenting the result of an assessment. The purpose of a report is to provide documentation necessary to support findings and concerns identified by the assessor(s). The report should clearly state the status of reviewed areas and act as the reference for future discussions regarding corrective action plans.

Each assessment report will be unique, depending on the scope and results of the assessment. An example of a typical assessment report is shown in DOE Standard DOE-STD-1070-94 and DOE Standard DOE-STD-3006-93 and includes the following sections:

- 1) Cover Page
  - 2) Summary
  - 3) Background
  - 4) Description of Assessment
  - 5) Results and Recommendations
  - 6) Conclusion
- i. Verification of corrective actions consists of the following elements: correction of reported items, correction of identical items, identification of error cause, and action to prevent recurrence. A tracking system is a useful tool to track the identification of an open item as well the completion status. Without tracking the status, a high probability exists that some necessary steps will not be taken because of the many actions involved.

### **Developing an Assessment Report**

When developing an assessment report the writing process consist of three stages: a. Planning, b. Drafting, and c. Reviewing.

- a. Planning- The most important stage of the writing process. During this stage, critical decisions are made about the messages and how to develop and organize the messages. The end goal is to develop an outline that clearly and concisely conveys the message(s) to the organization. Such planning provides a road map for developing the written product.
- b. Drafting- During the drafting stage, the assessor writes the report using the results of the planning stage. In writing the report, the deductive style

should be used and each paragraph should have focus and flow.

In using the deductive style, a general statement or conclusion is stated first, and then supporting information is added. The supporting information should be sufficient to prove the point of the general statement or conclusion.

- c. Reviewing- Consists of examining the written product. This examination should confirm that the written message is the intended message and that it is presented clearly and concisely. Review techniques include: time between drafting and reviewing, use of a cold reader, reading aloud, and focusing on paragraphs and sentences.

### Conflict Management

Conflict is defined as that condition which will exist when two or more independent parties interact. Sources of conflict are: a. Individual factors, b. Organizational issues, and c. Communication. The sources of conflict are briefly described below:

- a. Individual factors include: background, social style, perceptions, and feelings.
- b. Organizational issues include: scarcity of resources, ambiguity over regulation, competition, and exceptions.
- c. Communication conflicts can arise from problems with sender, media, and receiver.

Conflict management is defined as the process of identifying, directing, and controlling the collection of factors that result from and contribute to conflict.

Stage 1 of conflict management is defining the conflict. Stage 2 is negotiating an agreement. Stage 3 is summarizing and reviewing. Once the conflict has been identified and it is determined that a meeting is necessary, the following conflict management techniques can be applied:

- Pause and think before reacting
- Keep the meeting under control
- Listen to all parties
- Maintain a give and take attitude
- Educate others tactfully
- Be willing to acknowledge when you are wrong

#### **4. Exercise Solutions**

EXERCISE 4.1-A     State the three (3) types of assessments.

- Internal
- Self
- External (also known as Independent)

EXERCISE 4.1-B     Which type of assessment provides the highest amount of objectivity? Why?

External (Independent) assessments offer more objectivity. These assessments are those conducted by someone other than the individual, group, or organization. The advantage of an independent assessment is that the assessor is not associated with the actual process or activity.

EXERCISE 4.1-C     In addition to monitoring work performance and identifying abnormal performance and potential problems, what three other responsibilities does a person performing independent assessments have?

- Identify opportunities for improvement
- Report results to a level of management having the authority to effect corrective action
- Verify satisfactory resolution to problems

EXERCISE 4.1-D     Describe the "Performance based" assessment approach.

Performance Based assessments are merely a logical extension of the compliance plus effectiveness concept. Performance Based assessments provide additional focus toward client expectation, better practices, and process refinement. Performance Based relates to the outcome/result of an activity or process through direct observation and evaluation against defined requirements.



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**EXERCISE 4.1-E**      List and describe four (4) factors that must be considered when "determining the scope" of an assessment.

Any four of the following

- QA Systems- Refer to the criteria of DOE Order 5700.6C, 10 CFR 830.120, or the QA Manual of the facility being assessed.
- Organizational Entities- Management personnel that have the responsibilities within the evaluation topic.
- Locations- Physical area where assessment items exist.
- Programs and Activities- Types of programmatic and work processes.
- Hierarchy of Procedures- The level of procedures that are used to determine performance during the assessment.
- Calendar Time- The time allotted for an assessment. Time can affect the population to be assessed. Compliance and performance based assessments use some prior time up to the present.

**EXERCISE 4.1-F**      Which types of questions are NOT used during the interview process of an assessment? Why?

Leading and loaded questions are to be avoided. Using leading and loaded questions prevent the free exchange of information.

**EXERCISE 4.1-G**      Which evaluation technique is used to test the differences that are beyond expected repeatability?

The Reinspect/Retest technique requires the evaluation team to reinspect/retest the product, compare results with those obtained by the initial inspection/test, and explore the differences that are beyond expected repeatability.

**EXERCISE 4.1-H**      List the six (6) sections of a typical assessment report.

- Cover Page
- Summary
- Background
- Description of Assessment
- Results and Recommendations
- Conclusion

**EXERCISE 4.1-I**      What are the three stages of conflict management?

- Defining the conflict
- Negotiating an agreement
- Summarizing and reviewing

**EXERCISE 4.1-J**      Define the term "objective evidence".

Any documented statement of fact, other physical condition, information, or record (either quantitative or qualitative) pertaining to the quality of an item or activity based on observations, measurements, or tests which can be independently verified (see DOE-STD-3006-93).

**EXERCISE 4.1-K**      What is the importance of note taking?

Since the burden of proof is placed on the evaluator, ample evidence must be gathered to support the conclusion.

**EXERCISE 4.1-L**      What information should be included in evaluator notes?

Time (including month, day, year, and hour); identities (including number, model, revision, name, title); objective evidence quality; relationship to governing documents or criteria; and relationship to process, activity, or product.

The evaluator should remember it is easier to dispose of excess notes than to reconstruct objective evidence from insufficient notes.

**EXERCISE 4.1-M**     Discuss the terms of type of deficiency and their significance in reference to the adequacy and effectiveness of the area (topic).

The type of deficiency refers to whether it is systematic or non-systematic. Significance refers to the consequences of the deficiency in terms of affect on product quality, compliance with permitting and regulatory requirements, and extent of degradation of contractor's controls.

The significance of a deficiency should be based on its consequences. The consequences should be determined based on four criteria; the affect on product, affect on operability, extent of population affected, and relationship to commitments.

**EXERCISE 4.1-N**     Describe what constitutes a "deficiency" (issue).

The term "deficiency" (issue) is used as an all inclusive term to include: nonconformance, noncompliance, violation, deviation, condition adverse to quality, discrepancy, and defect. It is typically defined as the variance of an activity, item, or service from established requirements, policies, procedures, standards, or criteria.

**EXERCISE 4.1-O**     Describe the criteria for determining the significance of deficiencies (issues).

The nature of deficiencies breaks down into three categories: systematic, symptomatic, and inadvertent. Systematic deficiencies refer to problems inherent to the work routine. Symptomatic deficiencies result from systematic problems.

**EXERCISE 4.1-P**     Discuss the types of deficiencies (issues) that warrant prompt notification to management personnel of both the contractor and the Department.

Deficiencies that warrant immediate notification include:

- The deficiency represents obvious potential to continue to generate non-conforming product if work continues.

- The deficiency represents a condition to workers where personnel injury or excessive radiological exposure is likely.
- The deficiency represents a condition where continued work or operation is likely to result in major equipment damage.
- The deficiency represents a major violation of security requirements.
- The deficiency represents a violation of commitment to a governmental agency other than a purely administrative condition having no possible consequences on safety, environmental, health, and security.

**EXERCISE 4.1-Q**      Discuss the use of recommendations and observations that do not involve/constitute deficiencies (issues).

Recommendations and observations given by a evaluation team can be highly subjective and subject to debate because they do not directly involve requirements.

Recommendations are suggestions from the evaluation team on future, generally corrective, actions to be taken. The performance of recommendations are the responsibility of the evaluated organization. Recommendations should be avoided. If given, they should be general in methodology.

Observations usually report perceived weaknesses. A deficiency does not exist, but the methodology employed by the evaluated organization is considered weak. Where possible an agreement should be obtained from the evaluated organization to act on the observation. The evaluated organization should be willing to commit to respond to the item. The organization's proposed response should be included with the observation.

**EXERCISE 4.1-R**      Discuss the ethical liability and responsibility of the assessor.

The evaluator is responsible for the credibility of his or her evaluation results. The evaluator should have sufficient supporting objective evidence to support the conclusions reached. Unethical reporting practices should be avoided.

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Those practices include the following:

- Failure to report a deficiency
- Withholding relevant information
- Springing surprises in the report
- Report as fact without sufficient basis

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**Competency 4.7** EH Residents shall demonstrate the ability to assess independently contractor and/or Federal employee environment, safety and health-related activities in accordance with the requirements of the following Department of Energy (DOE) Orders and Standard:

- DOE Order 4330.4B, Maintenance Management Program
- DOE Order 5480.17, Site Safety Representative
- DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities
- DOE Order 5480.31, Start-up and Restart of Nuclear Facilities
- DOE-STD-3006-93, Planning and Conduct of Operational Readiness Reviews

### **1. Supporting Knowledge and/or Skills**

- a. Establish the criteria to be used as a basis for conducting the assessment.
- b. Establish the points-of-contact with the field organization being assessed.
- c. Gather information pertinent to the evaluation by interviewing personnel, observing related activities, and reviewing records.
- d. Document the results of data collection in field notes.
- e. Compare the results of the review phase with the criteria established for the assessment and determine if deficiencies exist.
- f. Document the results of the overall assessment in a formal written report which includes the status of meeting the established criteria, identifies deficiencies or good practices, and suggests recommendations for improvement.
- g. Resolve conflicting or inconclusive observations or findings obtained from other evaluators on the assessment team.
- h. Verbally report the results of the evaluation to contractor facility management and DOE management.
- i. Perform follow-up activities as applicable to ensure implementation of corrective actions, including tracking and close-out.

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### **2. Self-Study Activities (corresponding to the intent of the above competency)**

- NOTES: · The DOE Orders are in a state of transition. Please refer to the following world wide web site for a cross reference of new and old Orders: [www.explorer.doe.gov](http://www.explorer.doe.gov)
- Below are web sites containing many of the references you may need.

<b>Web Sites</b>		
<b>Organization</b>	<b>Site Location</b>	<b>Notes</b>
Department of Energy	<a href="http://cted.inel.gov/cted">http://cted.inel.gov/cted</a>	Clearinghouse for Training, Education, and Development
Department of Energy	<a href="http://www.explorer.doe.gov/">http://www.explorer.doe.gov/</a>	DOE Standards, Guides, and Orders
U.S. House of Representatives	<a href="http://law.house.gov/cfr.htm">http://law.house.gov/cfr.htm</a>	Searchable Code of Federal Regulations

Competency 4.7 addresses Environmental, Safety, and Health (EH) Residents ability to assess Environment, Safety, and Health related activities as they apply to the above DOE Orders and Standard. To support the review and understanding of the competency, Supporting Knowledge and Skills and Self-Study Information has been developed. The Self-Study Information specifically address those areas needed for understanding the competency. The following documents are used in support of the Self-Study Information:

- DOE Order 4330.4B, Maintenance Management Program
- DOE-STD-1055-93, Guideline to Good Practices for Maintenance Management Involvement at DOE Nuclear Facilities
- DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities
- DOE Order 5480.17, Site Safety Representatives
- DOE Order O 425.1, Start-Up and Restart of Nuclear Facilities (formerly DOE Order 5480.31, Start-Up and Restart of Nuclear Facilities)
- DOE-STD-3006-93, Planning and Conduct of Operational Readiness Review

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**Read** Chapter 1 of DOE Order 4330.4B, Maintenance Management Program

**Read** DOE-STD-1055-93, Guideline to Good Practices for Maintenance Management Involvement at DOE Nuclear Facilities

**Read** DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities, and chapter I of Attachment 1.

**Read** sections 1 through 4 of DOE-STD-3006-95, Planning and Conduct of Operational Readiness Reviews

**Read** DOE Order 5480.17, Site Safety Representatives

EXERCISE 4.7-A      List the objectives of the DOE documents below:

- Maintenance Management Program, DOE Order 4330.4B
- Conduct of Operations Requirements for DOE Facilities, DOE Order 5480.19 -
- Start-Up and Restart of Nuclear Facilities, DOE Order O 425.1
- Planning and Conduct of Operational Readiness Reviews, DOE-STD-3006-93

EXERCISE 4.7-B      What are the responsibilities of the Site Safety Representative?

EXERCISE 4.7-C      What activities occur at the entrance meeting?

EXERCISE 4.7-D      What items should be discussed at the daily team meetings?

EXERCISE 4.7-E      What is the purpose of the daily Briefing Meeting with Senior Management?

EXERCISE 4.7-F      Which types of questions are used during the interview process of an assessment? Why?

EXERCISE 4.7-G      You are assigned as an assessor and are to report the results to Management, describe the three (3) main parts of the presentation and the areas addressed in each of the areas.

EXERCISE 4.7-H      What are the three (3) stages of the writing process for developing an Assessment Report?



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- EXERCISE 4.7-I      What are the six (6) sections of an assessment report?
- EXERCISE 4.7-J      What is the deductive style or writing used in an Assessment Report?
- EXERCISE 4.7-K      To avoid conflicts and resolve conflicts that occur during the generation of the assessment report, what steps should be taken?

### **3. Summary**

Through the previous understanding of Competency 2.22 regarding the understanding of DOE Order 5482.1B and Competency 4.1 regarding assessment techniques, Environment, Safety, and Health Appraisal Program, and this competency, EH Personnel will be able to demonstrate the ability to assess Environment, Safety, and Health related activities as they apply to the above DOE Orders and Standard.

#### Objectives of DOE Orders

To assist EH personnel in the assessing Environment, Safety, and Health activities of the above DOE Orders, a brief description of the objectives of each Order and Standard is summarized below:

- DOE Order 4330.4B, Maintenance Management Program - To ensure that maintenance programs are executed in a manner to preserve the property of the Department. The maintenance program shall be maintained in a manner which promotes operational safety, worker health, environmental protection and compliance, property preservation, and cost-effectiveness.
- DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities - To provide guidelines in developing directives, plans, and/or procedures relating to operations at DOE facilities. The implementation of these guidelines should result in improved quality and uniformity of operations.
- DOE Order O 425.1, Start-Up and Restart of Nuclear Facilities (formerly DOE Order 5480.31, Start-Up and Restart of Nuclear Facilities) - To ensure that the facility meets technical requirements for startup or restart as appropriate and to provide support to the startup or restart test programs to confirm operability of equipment and systems.
- DOE-STD-3006-93, Planning and Conduct of Operational Readiness Reviews - To ensure a facility is physically ready to start, that the managers and operators are prepared to manage and operate the facility in the proposed phase, and that the necessary infrastructure (procedures, staffing, compliance with DOE Orders, etc.) are in place.

### Assessing Contractor Activities

During the assessment of contractor activities there are certain criteria useful in determining the acceptance or noncompliance of an item or activity. The following criteria summarized from 10 CFR 830.120(c) and DOE Order 5700.6C, Quality Assurance, provide the basis for contractor assessments:

- **Programs-** Organizations shall develop a written plan that describes the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing adequacy of work.
- **Personnel Training and Qualifications-** Personnel shall be trained and qualified to ensure they are capable of performing their assigned work. Training should emphasize correct performance of work, provide understanding of quality requirements, and stimulate professional development.
- **Quality Improvement-** The organization shall establish and implement processes to detect and prevent quality problems and to ensure quality improvement. Items and processes that do not meet established requirements shall be identified, controlled, and corrected. Correction shall include: identifying the cause of the problems and preventing reoccurrence. Item reliability, process implementation, and other quality-related information shall be reviewed and data analyzed to identify items and processes needing improvement.
- **Documents and Records-** Documents shall be prepared, reviewed, approved, issued, used, and revised to prescribed processes, specified requirements, or established designs.

Records should be maintained and provisions provided for retention, protection, preservation, traceability, accountability, and retrievability.

- **Work Processes-** Work should be performed to technical standards and administrative controls. Work shall be performed under controlled conditions using approved instructions, procedures, or other appropriate means.
- **Design-** Process should use sound engineering/scientific principles and appropriate standards. Design work, including changes, shall be incorporated into applicable requirements and design bases.

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- Procurement- The method of obtaining items or services that meet established requirements and performed as specified. Prospective suppliers shall be evaluated and selected on the basis of specific criteria.
- Inspection and Testing- The process by which an item is deemed acceptable or not acceptable based on established acceptance and performance criteria.
- Management Assessment- Management at all levels shall periodically assess the integrated quality assurance program and its performance. Problems that hinder the organization from achieving its objectives shall be identified and corrected.
- Independent Assessment- Planned and periodic independent assessments shall be conducted to measure item quality and process effectiveness and to promote improvement. The organization performing independent assessments shall have sufficient authority and freedom from the line organization to carry out its responsibilities. Persons conducting independent assessments shall be technically qualified and knowledgeable in the areas assessed.

### **Points of Contact**

To assist in conducting an assessment of activities related to the above Orders and Standard it is necessary to establish a main person of contact for each assessment. The following personnel can be considered as the people to contact during an assessment for the above Orders and Standard:

- DOE Order 4330.4B, Maintenance Management Program - The Facility Manager and Maintenance Manager.
- DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities - The Facility Manager and the Operations Manager.
- DOE Order O 425.1, Start-Up and Restart of Nuclear Facilities (formerly DOE Order 5480.31, Start-Up and Restart of Nuclear Facilities) - The Facility Manager and the Start-Up Manager.
- DOE-STD-3006-93, Planning and Conduct of Operational Readiness Reviews - The Facility Manager, Operations Manager, and Engineering Manager.

### Participating as an Assessor

To assess contractor activities and prepare necessary reports it is imperative that the assessor actually participate in an assessment of a contractor's performance. To participate in an assessment, the assessor should contact his/her Quality organization to make the necessary arrangements. The reasons for participating in an assessment of a contractor's performance are to learn the assessment process, demonstrate the capability of assessment performance, and enhance the quality of the item or process. The three activities pertinent to assessing a contractor's performance are described below.

### Assessing a Contractor's Performance

To adequately assess a contractor's performance, it is important that the person doing the assessing understand the elements of conducting an assessment.

### Overview of Conducting Assessments

There are nine essential elements of conducting an assessment. Prior to beginning an assessment, a review of the following conduct of assessment elements is warranted. Listed below are the conduct of assessment elements:

- Determining the Scope
- Preparing the Plan
- Conducting the Entrance Meeting
- Interview Process
- Evaluation Techniques
- Deficiency Identification
- Conducting the Exit Meeting
- Writing the Report
- Verification of Corrective Actions

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### Elements of an Assessment

- 1) Determining the Scope involves defining the boundaries for an evaluation. The following are factors to be considered when determining the assessment boundaries:
  - QA Systems- Refer to the 10 criteria of DOE Order 5700.6C, 10 CFR 830.120, or the QA Manual of the facility being assessed.
  - Organizational Entities- Management personnel that have the responsibilities within the evaluation topic.
  - Locations- Physical area where assessment items exist.
  - Programs and Activities- Types of programmatic and work processes.
  - Hierarchy of Procedures- The level of procedures that are used to determine performance during the assessment.
  - Calendar Time- The time allotted for an assessment. Time can affect the population to be assessed. Compliance and performance based assessments use some prior time up to the present.
- 2) Preparing the plan includes: scheduling the organization to be assessed, dates of the assessment, team member identification, purpose and scope of the assessment, arrangement for the entrance meeting, necessary escorts, and exit meeting.
- 3) Conducting the entrance meeting involves the Team Leader introducing the participants, describing planned assessments, identifying points of contact, arranging for periodic briefings of the organizations being assessed, soliciting and answering questions, and arranging for the exit meeting.
- 4) The interview process is a free exchange of information. It is during this time that a positive, cooperative climate is established. The types of questioning include: open, closed, probing, and leading/loading. Open questions are used to obtain general information, closed questions are used to obtain specific information, probing questions are used to obtain clarifying or additional information. Leading and loaded questions are to be avoided.

- 5) Evaluation techniques are essential because they provide the means to determine acceptability. The techniques include: a) Traceback, b) Tracethrough, c) Comparison, and d) Reinspect/Retest.
- The Traceback method involves selecting samples from end results, tracing backwards through the activities that produced the results, evaluating each step of the activity, and continuing such an evaluation to the upper tier requirement.
  - The Tracethrough method begins with the evaluation starting with the commitment of the upper tier requirement, tracing through the control model/standard, and evaluating each step until arriving at an end result.
  - The Comparison method compares "from a requirement" to "the object of that requirement". It determines acceptability in terms of compliance with the requirement. Comparison always compares from the requirement to the object of the requirement. Because comparison determines acceptability, it is highly useful.
  - The Reinspect/Retest technique requires the evaluation team to reinspect/retest the product, compare results with those obtained by the initial inspection/test, and explore the differences that are beyond expected repeatability.
- 6) Deficiency identification describes the deficiency. A deficiency is a variance from a requirement. Deficiencies may be symptomatic, systematic, or inadvertent. Deficiencies that affect product quality, health, equipment reliability, and commitments to governmental agencies should be promptly reported to the contractor or DOE management.
- 7) Conducting the exit interview is important because it verbally summarizes the assessment. The exit meeting should identify participants, discuss assessment results, deficiencies, items of concern, questions from the assessed organization, and subsequent schedule of events.
- 8) Writing the report is documenting the result of an assessment. The purpose of a report is to provide documentation necessary to support findings and concerns identified by the assessor(s). The report should clearly state the status of reviewed areas and act as the reference for future discussions regarding corrective action plans.

Each assessment report will be unique, depending on the scope and results of the assessment. An example of a typical assessment report is shown in DOE Standard DOE-STD-1070-94 and DOE Standard DOE-STD-3006-93 and includes the following sections:

- Cover Page
  - Summary
  - Background
  - Description of Assessment
  - Results and Recommendations
  - Conclusion
- 9) Verification of corrective actions consists of the following elements: correction of reported items, correction of identical items, identification of error cause, and action to prevent recurrence. A tracking system is a useful tool to track the identification of an open item as well the completion status. Without tracking the status, a high probability exists that some necessary steps will not be taken because of the many actions involved.

#### Four Step Investigative Approach

- 1) What actually occurred?

The evaluator interviews or reviews the performance records to determine what actually occurred.

- 2) What was structured to occur?

The evaluator determines if the activity is structured to allow what actually occurred and whether other events should have occurred.

- 3) What should have been structured to occur?

The evaluator determines whether the previously observed structure complies with the intended and required structures.

- 4) Determine the affect on quality.

The evaluator examines the affect on quality of the output of the process.



### Field Observations

During an assessment, field observations are an important aspect that provide valuable information. Assessment team members should use established field observation techniques, including the following:

- 1) Taking detailed notes of observed activities, including objective evidence obtained or reviewed, and date and time of observed activities.
- 2) Logging the time that notes were taken to correlate contractor responses and personnel actions identified by other observers.
- 3) Include questions, items, and reference information in notes for later follow-up.
- 4) Compare notes with other observers to share information.
- 5) Provide informal status to contractor on a regular basis.

### Reporting the Results to Management

Reporting the results to management can be accomplished in several ways: 1) Daily Updates, 2) Exit Meeting, and 3) Assessment Report.

- 1) Daily Updates- This method is used to provide the following:
  - Daily interchange of information
  - Adjustment of schedules or assignments
  - Summary of items assessed that day and the results
  - Request of better support from organizations being assessed
  - Areas of concern/potential findings
- 2) Exit Meeting- The Exit Meeting serves to present assessment findings, ensure understanding of the findings, and clarify any misunderstandings. If the organization being assessed was kept informed during the assessment process by daily updates, the organization should not be surprised by this presentation. Presentation of assessment findings should be consistent with information being prepared for the assessment report. If possible, a draft assessment report should be presented.
- 3) Assessment Report- An effective report provides the contractor with a complete set of findings and recommendations. The report should be

reviewed with contractor management for organization and accuracy prior to issuance.

### **Developing an Assessment Report**

When developing an assessment report the writing process consist of three stages: 1) Planning, 2) Drafting, and 3) Reviewing.

- 1) **Planning-** The most important stage of the writing process. During this stage, critical decisions are made about the messages and how to develop and organize the messages. The end goal is to develop an outline that clearly and concisely conveys the message(s) to the organization. Such planning provides a road map for developing the written product.
- 2) **Drafting-** During the drafting stage, the assessor writes the report using the results of the planning stage. In writing the report, the deductive style should be used and each paragraph should have focus and flow.

In using the deductive style, a general statement or conclusion is stated first, and then supporting information is added. The supporting information should be sufficient to prove the point of the general statement or conclusion.

- 3) **Reviewing-** Consists of examining the written product. This examination should confirm that the written message is the intended message and that it is presented clearly and concisely. Review techniques include: time between drafting and reviewing, use of a cold reader, reading aloud, and focusing on paragraphs and sentences.

#### **4. Exercise Solutions**

EXERCISE 4.7-A     List the objectives of the DOE documents below:

- Maintenance Management Program, DOE Order 4330.4B  
- To ensure that maintenance programs are executed in a manner to preserve the property of the Department. The maintenance program shall be maintained in a manner which promotes operational safety, worker health, environmental protection and compliance, property preservation, and cost-effectiveness.
- Conduct of Operations Requirements for DOE Facilities, DOE Order 5480.19 - To provide guidelines in developing directives, plans, and/or procedures relating to operations at DOE facilities. The implementation of these guidelines should result in improved quality and uniformity of operations.
- Start-Up and Restart of Nuclear Facilities, DOE Order O 425.1 - To ensure that the facility meets technical requirements for startup or restart as appropriate and to provide support to the startup or restart test programs to confirm operability of equipment and systems.
- Planning and Conduct of Operational Readiness Reviews, DOE-STD-3006-93 - To ensure a facility is physically ready to start, that the managers and operators are prepared to manage and operate the facility in the proposed phase, and that the necessary infrastructure (procedures, staffing, compliance with DOE Orders, etc.) are in place.

EXERCISE 4.7-B     What are the responsibilities of the Site Safety Representative?

To provide independent onsite oversight through monitoring, inspection, observing, and reporting on safety activities at a site.

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- EXERCISE 4.7-C**      What activities occur at the entrance meeting?
- The Team Leader introducing the participants
  - The planned assessments are described
  - The points of contact are identified
  - Periodic briefings of the organizations being assessed are arranged
  - Soliciting and answering questions
  - Arranging for the exit meeting
- EXERCISE 4.7-D**      What items should be discussed at the daily team meetings?
- Items for samples
  - Areas of concerns
  - Deficiencies
  - Strengths
- EXERCISE 4.7-E**      What is the purpose of the daily Briefing Meeting with Senior Management?
- Allows the Team Leader to meet with the senior manager daily to ensure that the evaluation team and the evaluated organization arrive at the exit meeting with similar perspectives on the evaluation results.
- EXERCISE 4.7-F**      Which types of questions are used during the interview process of an assessment? Why?
- Open questions are used to obtain general information. Closed questions are used to obtain specific information. Probing questions are used to obtain clarifying or additional information. Leading and loaded questions are NOT to be used.

**EXERCISE 4.7-G**     You are assigned as an assessor and are to report the results to Management, describe the three (3) main parts of the presentation and the areas addressed in each of the areas.

Introduction - provides the audience with the purpose and direction of the presentation.

- Subject and purpose
- Expected duration
- Briefly describe major areas to be covered
- Explanation of how questions will be handled.

Body of the presentation - provides all the information that needs to be comprehended. The following information should be presented for each area to be evaluated.

- Criteria or requirement
- Conditions
- Problems or conclusions
- Recommendations or commitments

Conclusion - A short summarization of major ideas or points.

**EXERCISE 4.7-H**     What are the three (3) stages of the writing process for developing an Assessment Report?

- Planning
- Drafting
- Reviewing

**EXERCISE 4.7-I**     What are the six (6) sections of an assessment report?

- 1) Cover Page
- 2) Summary
- 3) Background
- 4) Description of Assessment
- 5) Results and Recommendations
- 6) Conclusion

**EXERCISE 4.7-J**      What is the deductive style or writing used in an Assessment Report?

The first sentence of a paragraph is a general conclusion or statement of fact. The following portion of the paragraph provides sufficient information to prove the initial statement.

**EXERCISE 4.7-K**      To avoid conflicts and resolve conflicts that occur during the generation of the assessment report, what steps should be taken?

- Ensure adequate preparation by the team
- Establish team responsibilities and communications
- Keep the organization being evaluated informed
- Involve the team leader
- Extract the facts on both sides of the issue
- Compare facts to requirements
- Either reach agreement or agree to disagree